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(71) Applicant(s)

Joan Raphael-Leff
1 South Hill Park Gardens, LONDON, NW3 2TD,
United Kingdom

Jonty Joel Leff
1 South Hill, Park Gardens, LONDON, NW3 2TD,
United Kingdom

(72) Inventor(s)

Joan Raphael-Leff
Jonty Joel Leff

(74) Agent and/or Address for Service

Joan Raphael-Leff
1 South Hill Park Gardens, LONDON, NW3 2TD,
United Kingdom

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(56) Documents Cited
GB 2255210 A WO 98/45769 A1 JP 070234743 A
JP 070036567 A US 5729429 A

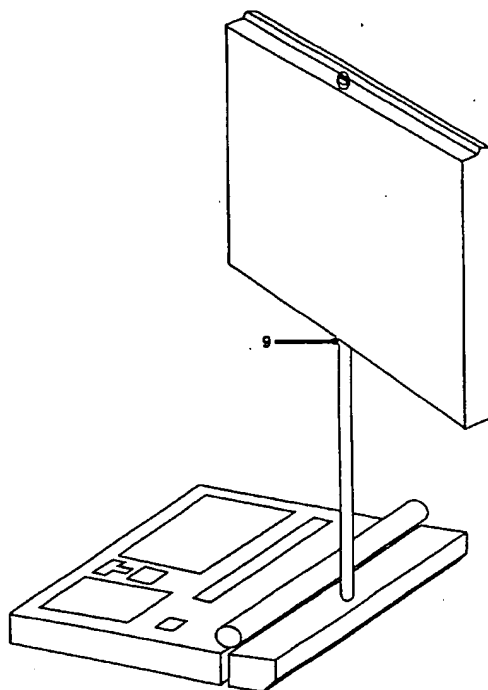
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UK CL (Edition R) G4A ADT
INT CL⁷ G06F 1/16 15/02
Online: WPI, EPODOC, PAJ

(54) Abstract Title

Portable computer with height adjustable display.

(57) A portable, or laptop computer in which the display screen (LCD) can be raised above the keyboard to a more comfortable viewing position using eg. a sliding mechanism comprising rods and tubes. According to a second embodiment the monitor can be rotated in different directions in relation to the keyboard.

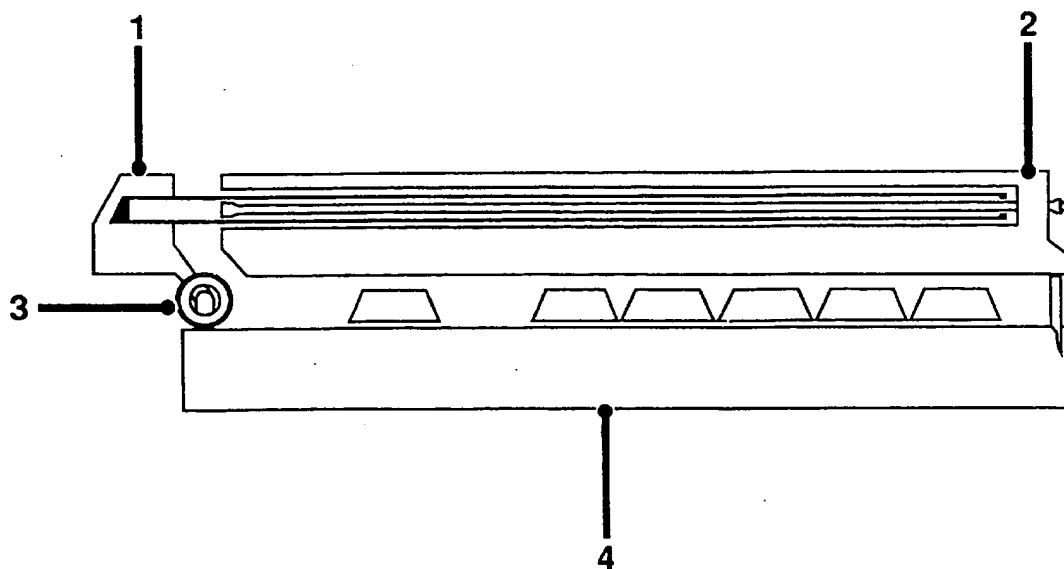
Figure 4

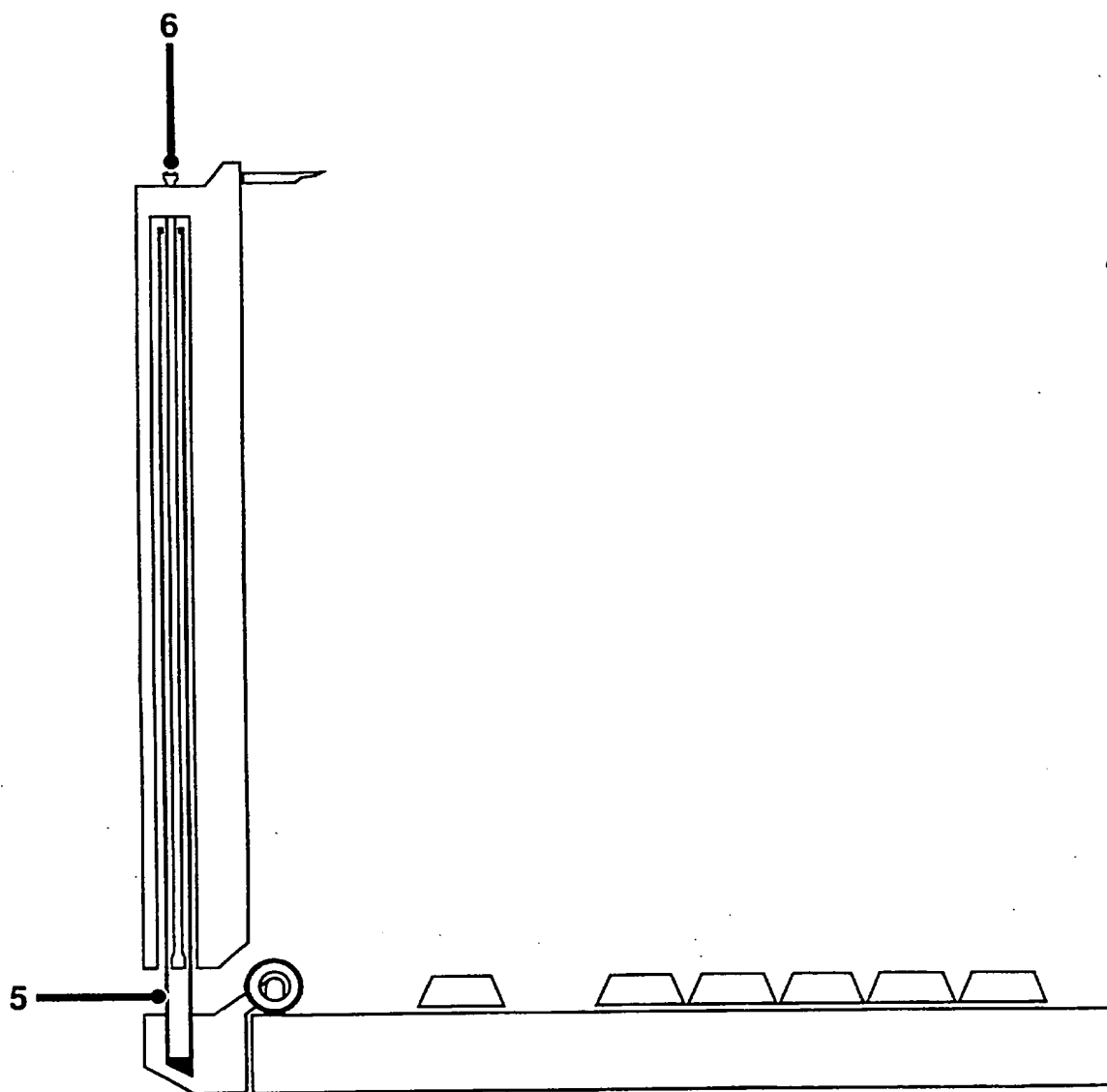


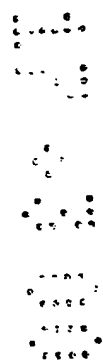
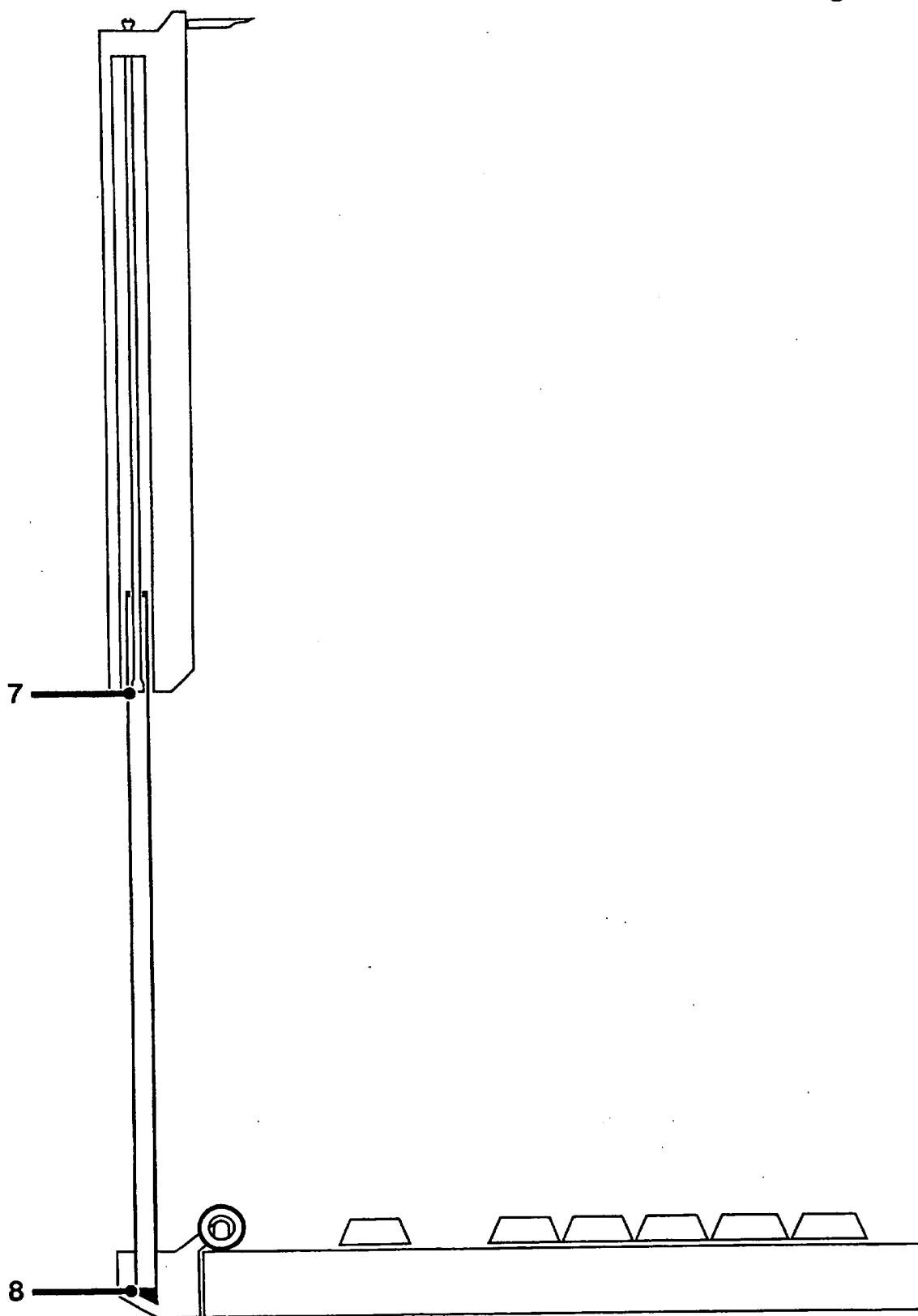
At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

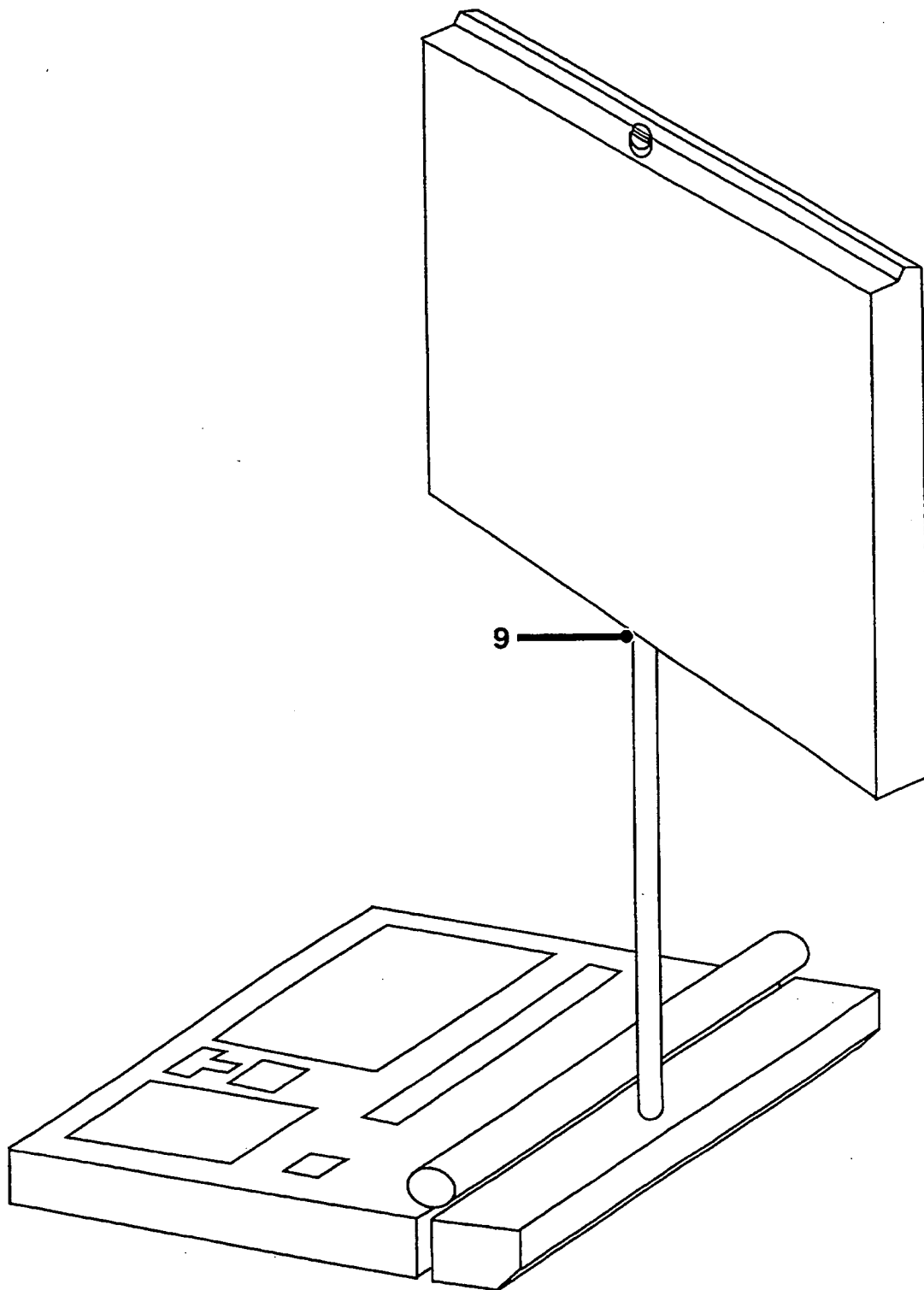
The claims were filed later than the filing date but within the period prescribed by Rule 25(1) of the Patents Rules 1995.

GB 2 358 259 A









LAP TOP EXTENSION: DESCRIPTION

This invention relates to an extendable lap top.

A lap top computer is a well known product. It is a type of mobile personal computer, light enough to be carried around, allowing the user to use their personal computer almost anywhere. However existing lap top computers have design limitations: when the key board is at wrist level the screen is too low for the eyes. The present invention remedies this by providing a connection between the screen and keyboard enabling elevation. A further innovation involving rotation of the screen enables the modified lap top to be used for demonstration purposes.

According to the present invention there is provided a connection between the screen and the keyboard comprising:

- i. A connection enabling the screen to be extended up to eye level.
- ii. A connection enabling the screen to face in other directions.
- iii. A device to fix the screen at various heights and to fix the screen facing in various directions.

Embodiments can comprise a lap top comprising three (or more) elements: a connection enabling the screen to be opened upright from the keyboard and raised to the desired height; a connection enabling the screen to be rotated so as to face a desired direction; a device enabling the screen to be fixed at that desired height and facing that desired direction.

One possible embodiment of the invention will now be described by way of example with reference to the accompanying drawings in which:

Fig.1 shows the lap top in a closed position.

Fig.2 shows the lap top with the screen opened upright to the keyboard.

Fig.3 shows the lap top with the screen extended, raising the screen above the level of the keyboard.

Fig.4 shows the lap top in three dimensions, with the screen extended, raising the screen above the screen level of the lap top, the screen is figured at an angle. The screen has been rotated to face a different direction.

Referring to the drawings the lap top extension comprises one unit in three elements as illustrated in Fig.1.

The screen **2** is connected to the keyboard **4** via a third element, a connecting piece **1**. The connecting piece **1**

connects with the keyboard 4 via a hinge 3. The hinge 3 functions to allow the screen 2 to open upright to the keyboard 4 as illustrated in fig.2. A metal rod 6 is secured to a cavity within the screen 2. The metal tube 5 is firmly secured to the connecting piece 1. The metal rod 6 slides freely within the metal tube 5. The screen 2 can then be extended vertically as illustrated in Fig.3. The screen 2 is supported on the metal tube 5 as the metal rod 6 slides up the metal tube 5. The bottom of the metal tube 8 is firmly secured to the inside of the connecting piece 1. At the bottom of the metal rod 6 there is a fixing mechanism 7 which fixes the screen from moving once it is at the desired height and facing the desired direction. The connection at the top of the metal tube 9 allows the screen to be rotated to face different directions as illustrated in fig. 4.

CLAIMS

1. A system of extending a computer screen from a computer keyboard for a lap top personal computer comprising a connection enabling the screen to be raised up above the level of the keyboard
2. A system of extending a computer screen as claimed in claim 1 wherein the screen is connected to the keyboard using a device that is provided to allow for the screen to rotate to face different directions.
3. A system of extending a computer screen as claimed in claim 1 or claim 2 wherein means for securing the screen at a desired height is provided.
4. A system of extending a computer screen as claimed in any one of the preceding claims wherein means of securing the screen to face in a desired direction is provided.
5. A system of extending a computer screen as claimed in any one of the preceding claims wherein the screen is to be raised above the level of the keyboard by means of a connection enabling the screen to be raised up above the level of the keyboard using a combination of rods and tubes, or any other devices.



6. A system of extending a computer screen as claimed in any one of the preceding claims wherein the screen is to be fixed to face a different direction using a combination of rods and tubes, or any other devices.
7. A system of extending a computer screen as claimed in any one of the preceding claims wherein the screen is able to extend above the level of the keyboard and is able to face different directions by the means provided of one single tube and one single rod as illustrated here or by any other devices of whatever material
8. A system substantially as hereinbefore described with reference to and/or substantially as illustrated in the accompanying drawings.





Application No: GB 9923024.5
Claims searched: 1-8

Examiner: Huw Jones
Date of search: 28 April 2000

Patents Act 1977 Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:
UK CI (Ed.R): G4A - ADT
Int CI (Ed.7): G06F - 1/16, 15/02
Other: Online: WPI, EPODOC, PAJ

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	GB2255210 A (Triumph Adler) - see fig. 1	1,3-6
X	WO9845769 A1 (Wojcik) - see figs. 7, 8 and 10	1-8
X	US5729429 (M Georgios et al) - see fig. 3	1,3,5
X	JP7234743 A (Funai) - see figs. 1a & 1b and English language abstract	1,3,5
X	JP7036567 A (NEC) - see figure and English language abstract	1-8

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.